

Antenna Specification

Antenna Type	PCB IFA antenna
Antenna Peak Gain	-0.55 dBi @ Sub-G; 3.53 dBi @ BLE
Operating Band	902 ~ 928 MHz & 2400 MHz ~ 2500 MHz
Test laboratory name and Address	IoT Antenna Test Laboratory, 3 / A, LEEDARSON LIGHTING CO., LTD. Xingtai Industrial Park, Changtai Economic Development Zone, Zhangzhou, 363900, China
Antenna Manufacturer	LEEDARSON LIGHTING CO., LTD.
Model name	7AFYA4
Test Date	2025-09-26
Test Conductor	ouyanglongji

OTA measurement

Test System

The SY-16 OTA system and RayZone2800 OTA system are anechoic chambers, which can measure antenna passive data such as antenna efficiency, antenna gain, and 2D&3D pattern. The systems are shown as follows:



Figure 1 SY-16 OTA system



Figure 2 RayZone2800 OTA system

Equipment List

Table 1 Equipment List

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
☒	Network Analyzer	Keysight	E5071C	MY46527808	2025/1/9	2026/1/8
☐	Network Analyzer	Keysight	E5071C	MY46108051	2025/4/19	2026/4/18
☒	Anechoic Chamber	Sunyild	SY-16	SI1727	2025/4/28	2026/4/27
☐	Anechoic Chamber	General Test System	RayZone2800	CT10121244 B5079	2025/5/10	2026/5/9

Test Method

Table 2 Test Method

Name	Antenna Performance				
Parameter	Radiation Efficiency				
Test Method	IEEE Standard Test Procedures for Antennas				
Standard No.	ANSI/IEEE Std 149-2021				
Test Software	PMS-V2.8.5	☒	MaxSign-V1.4.3	☐	

Test Result

Efficiency and Gain

Table 3 Antenna Efficiency and Gain

Frequency (MHz)	Gain (dBi)	Efficiency (dB)	Efficiency (%)
902	-1	-4.46	35.81
904	-0.88	-4.32	36.99
906	-0.87	-4.31	37.07
908	-0.81	-4.27	37.39
910	-0.67	-4.15	38.49
912	-0.59	-4.06	39.24
914	-0.58	-4.03	39.51
916	-0.68	-4.13	38.68
918	-1	-4.23	37.79
920	-0.73	-4.2	38.05
922	-0.74	-4.06	39.31

924	-0.56	-3.88	40.91
926	-0.55	-3.84	41.32
928	-0.61	-3.91	40.63
2400	3.53	-2.41	57.44
2410	3.35	-2.45	56.86
2420	3.3	-2.37	57.99
2430	3.12	-2.4	57.5
2440	3.2	-2.3	58.9
2450	3.33	-2.31	58.68
2460	3.24	-2.43	57.13
2470	3.07	-2.52	55.98
2480	3.23	-2.39	57.63
2490	3.13	-2.51	56.05
2500	3.01	-2.66	54.22

Radiation Pattern

Table 5 3D radiation pattern @ 915 MHz

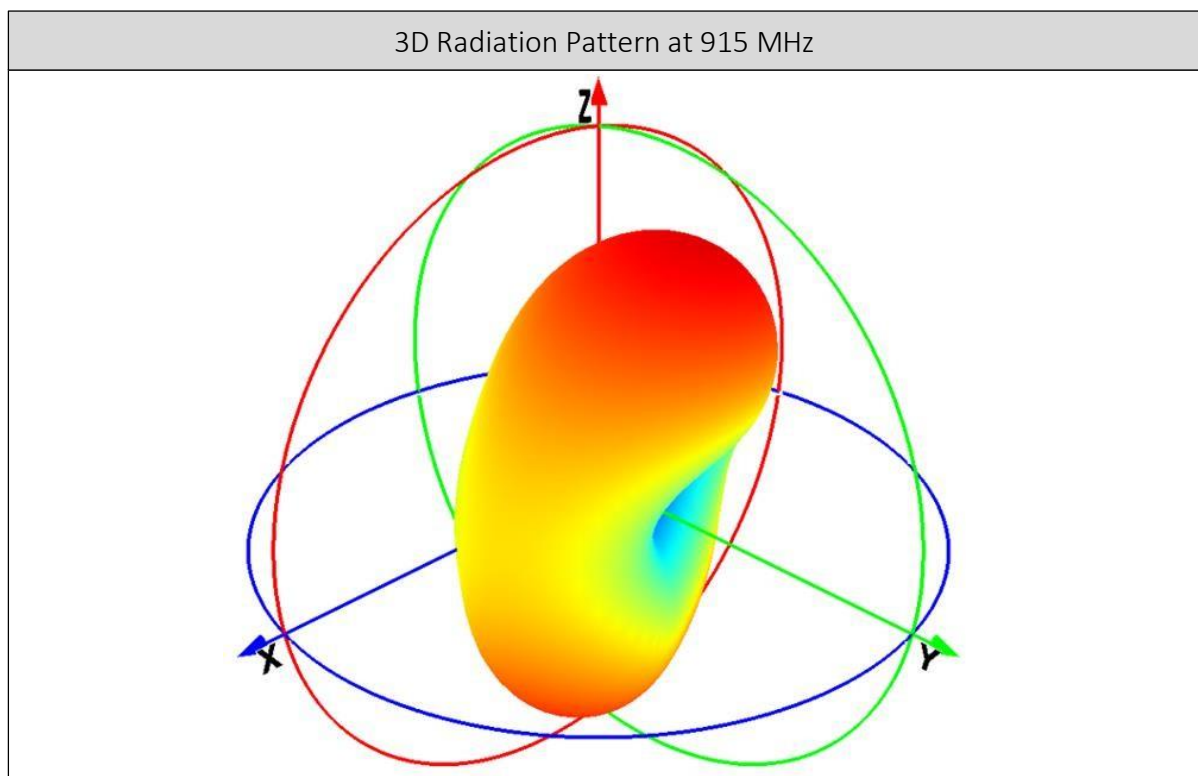


Table 6 Radiation pattern in XY Plane

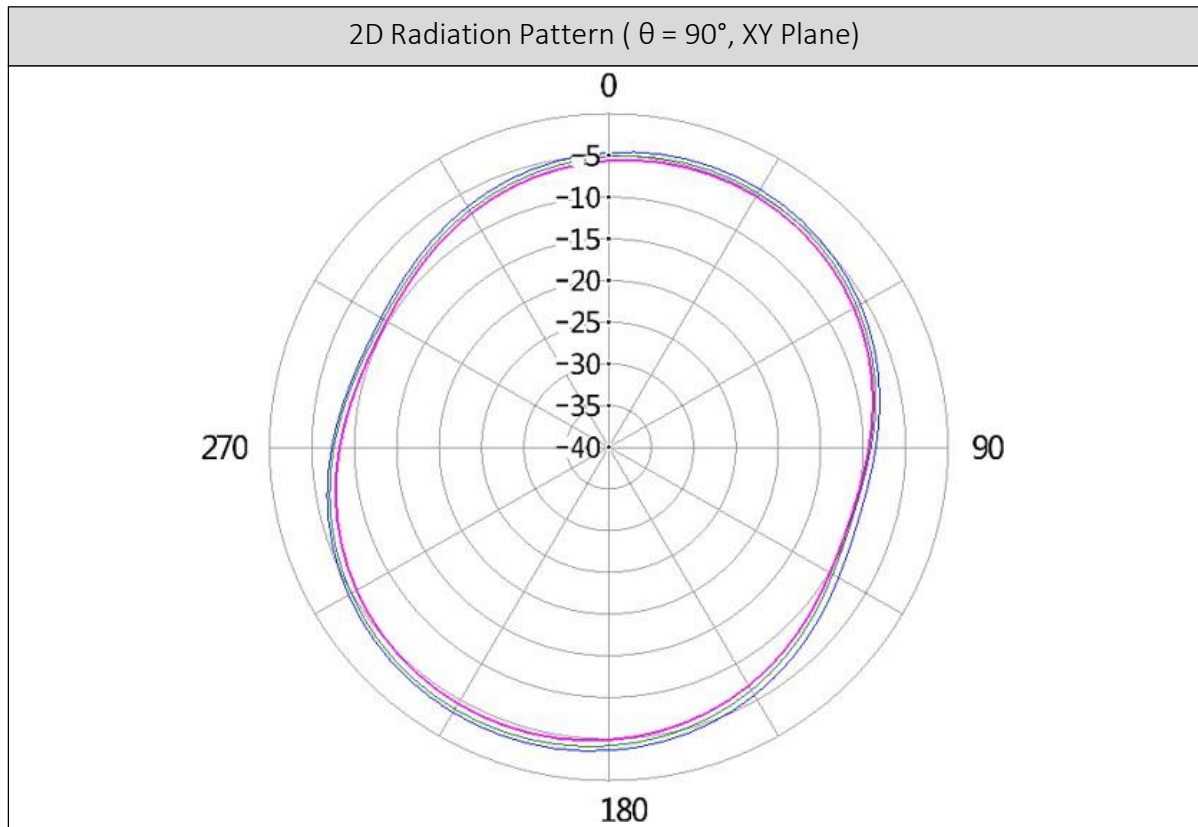


Table 7 Radiation pattern in XZ Plane

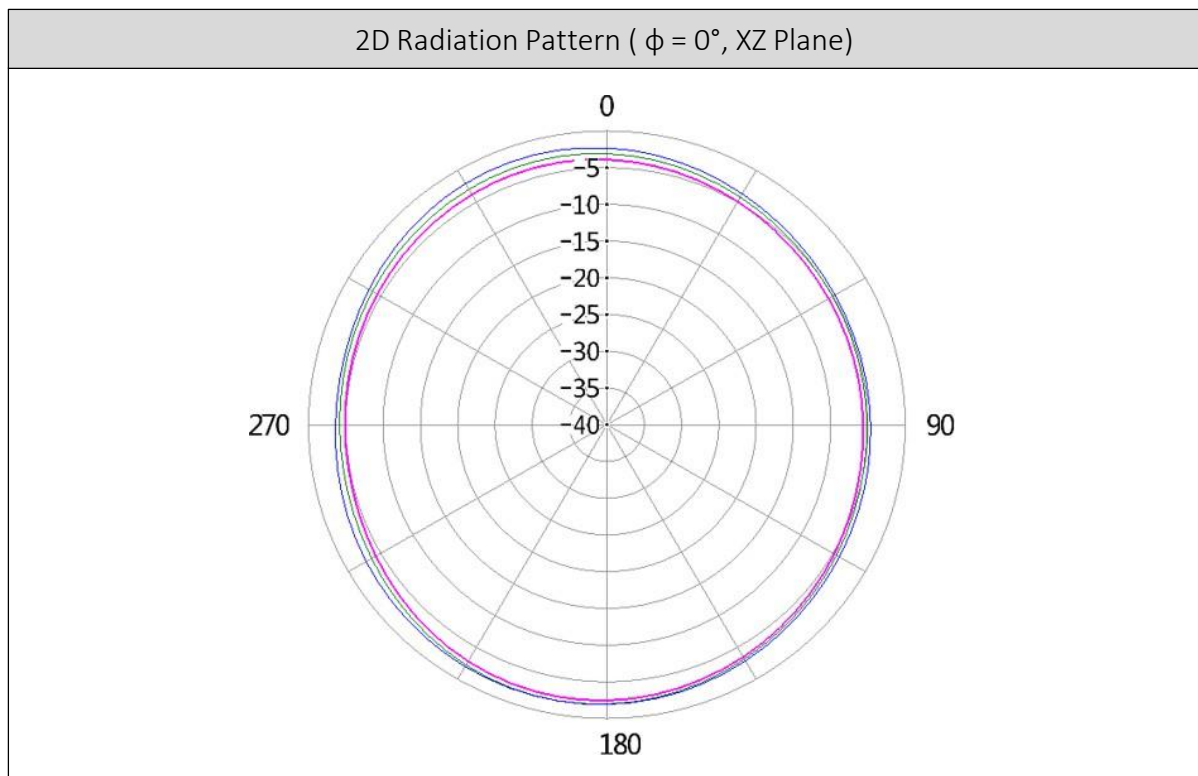


Table 8 Radiation pattern in YZ Plane

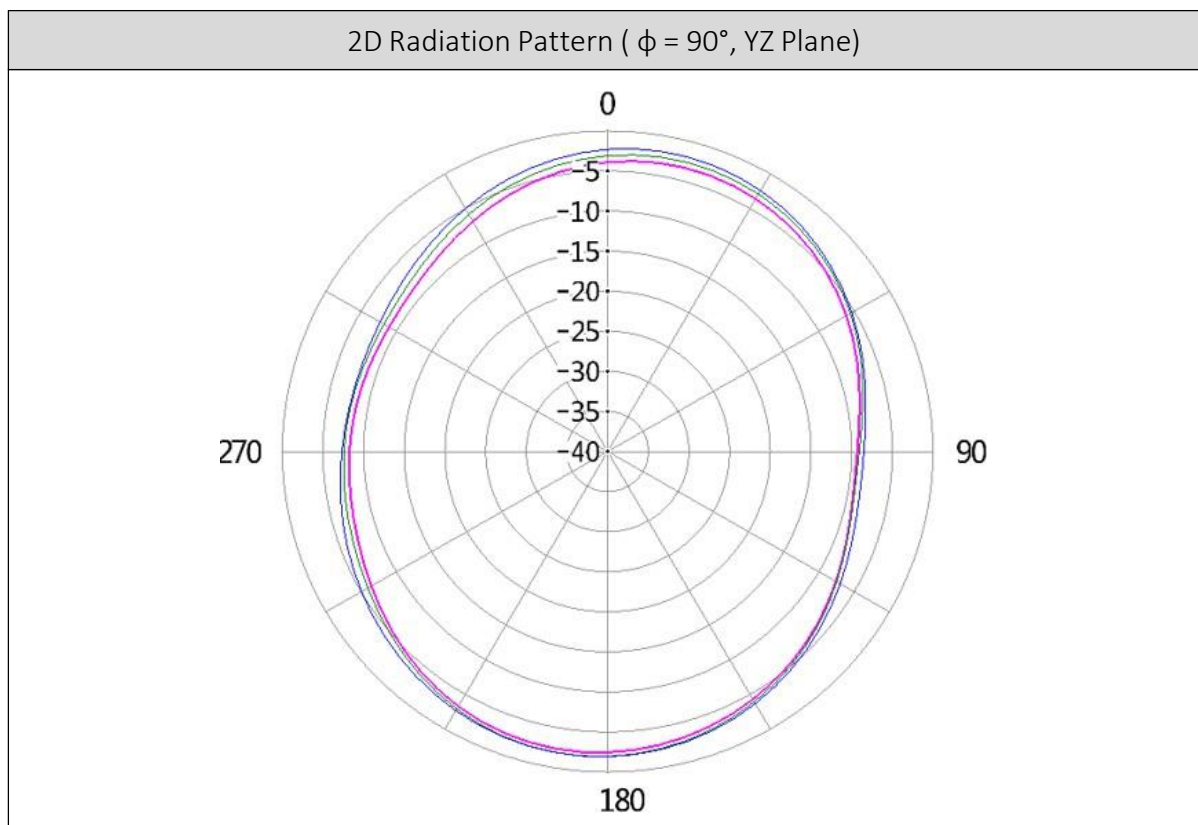


Table 9 3D radiation pattern @ 2450 MHz

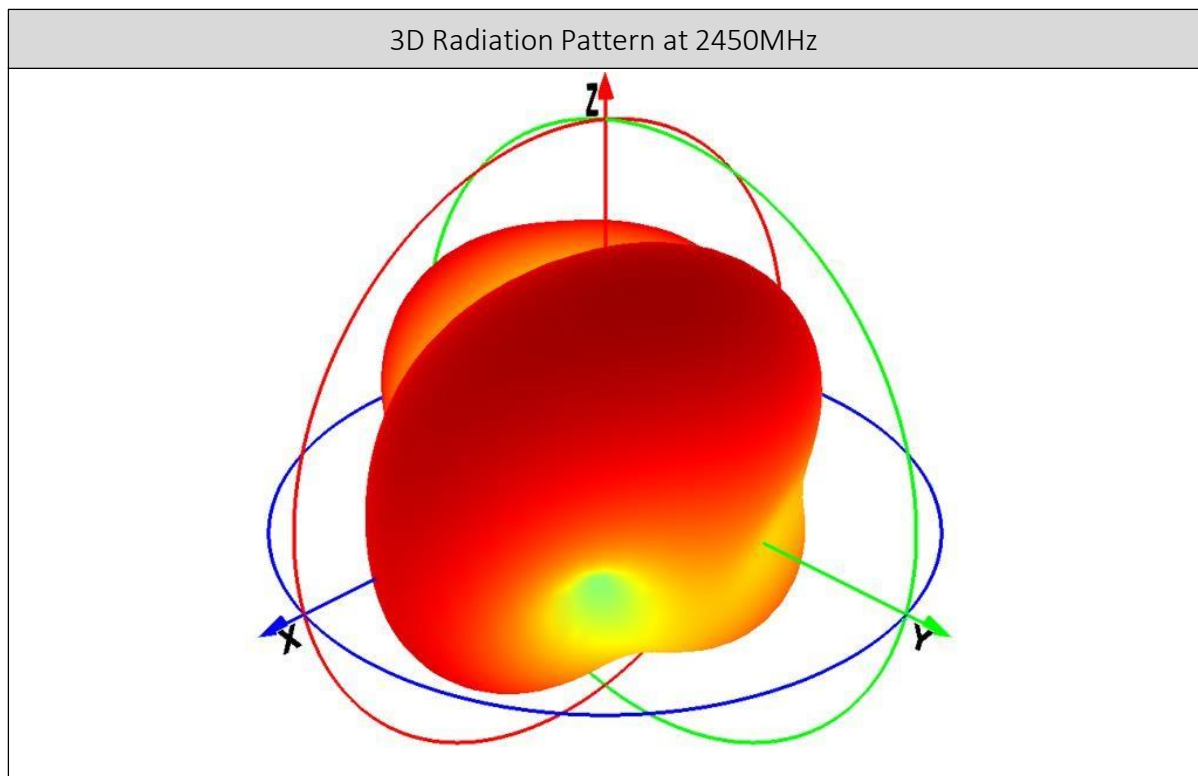


Table 10 Radiation pattern in XY Plane

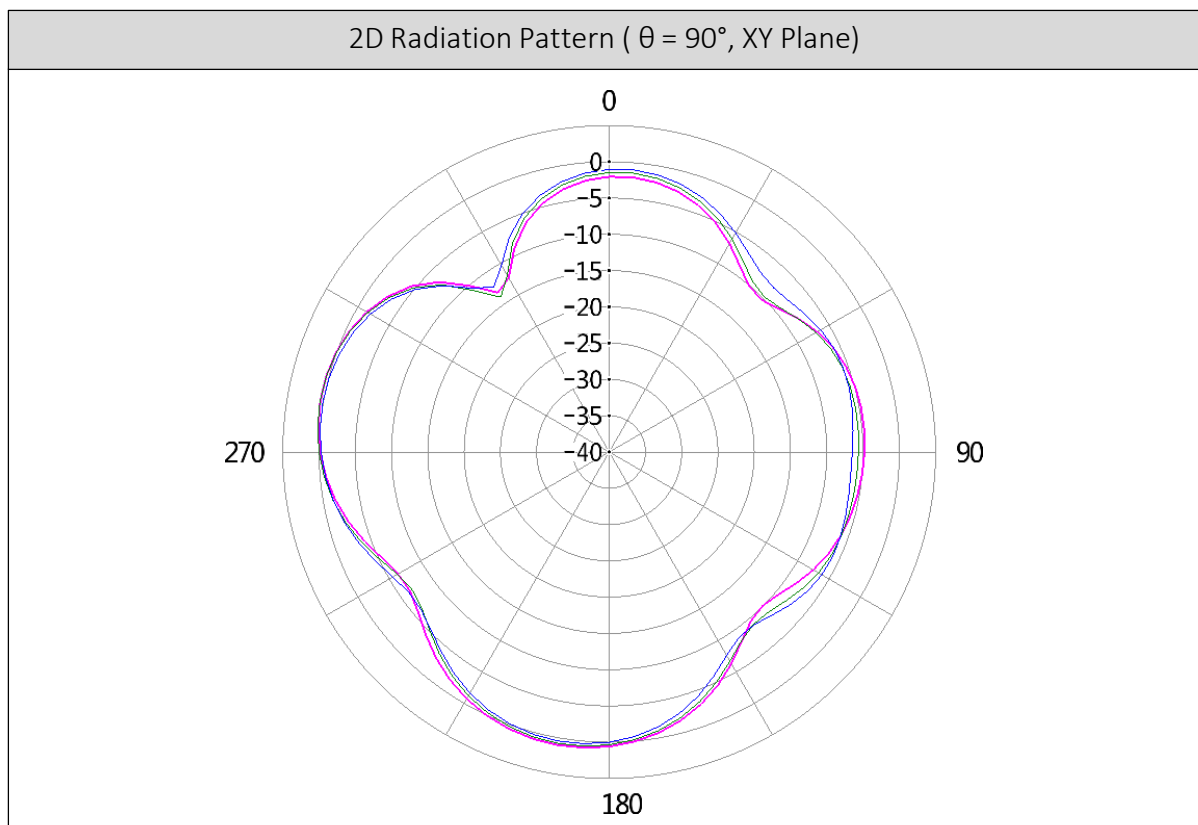


Table 11 Radiation pattern in XZ Plane

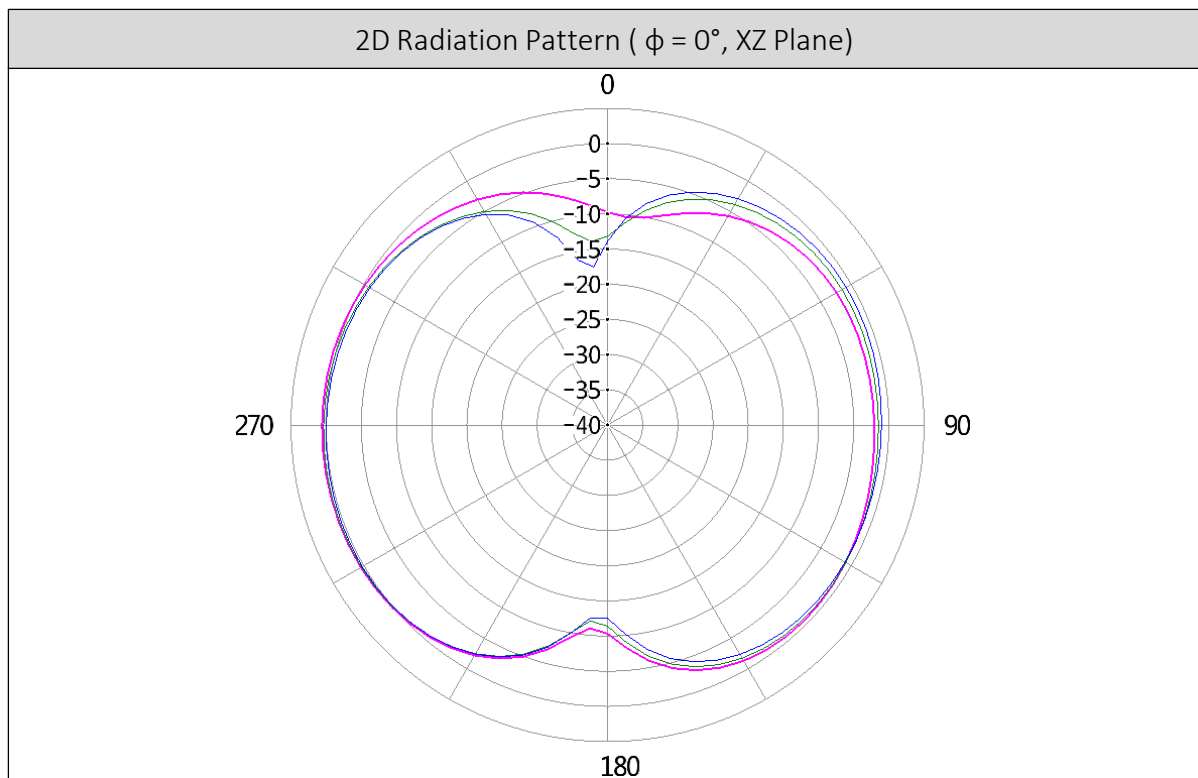


Table 12 Radiation pattern in YZ Plane

